

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 698 880 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
26.02.1997 Bulletin 1997/09

(51) Int. Cl.⁶: **G11B 7/00**, G11B 27/22,
G11B 20/18, G11B 19/04,
G11B 7/135

(43) Date of publication A2:
28.02.1996 Bulletin 1996/09

(21) Application number: 95112806.5

(22) Date of filing: 15.08.1995

(84) Designated Contracting States:
CH DE FR GB IT LI NL SE

• Yamazaki, Koichi
Sakado-shi, Saltama-ken (JP)

(30) Priority: 26.08.1994 JP 225594/94

(74) Representative: Selting, Günther, Dipl.-Ing. et al
Patentanwälte
von Kreisler, Selting, Werner
Postfach 10 22 41
50462 Köln (DE)

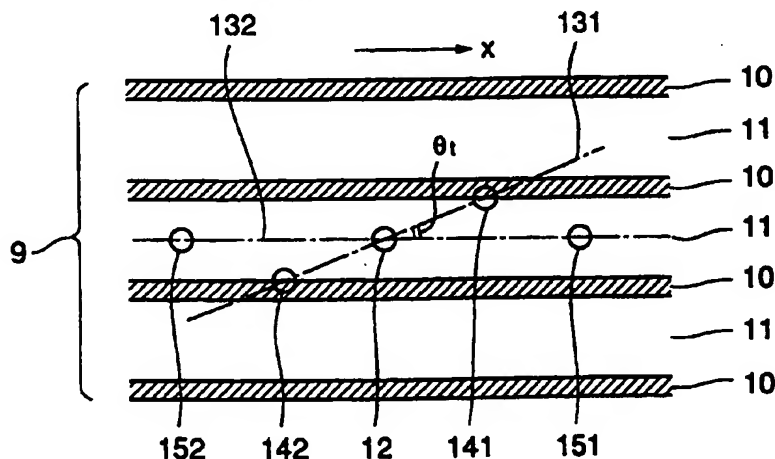
(71) Applicant: NIPPON CONLUX CO., LTD.
Chiyoda-ku Tokyo-To (JP)

(72) Inventors:
• Noda, Kazuo
Yokohama-shi, Kanagawa-ken (JP)

(54) Optical information recording device and method

(57) A laser light beam generated from a light source is divided by a diffraction grating into a plurality of light beams, i.e., a single main beam (12) to be used for recording information and plural auxiliary beams (141, 142; 151, 152) distributed on two imaginary straight lines (131, 132) crossing each other. One of the straight lines extends parallel to tracks (11) of a recording medium (9). The resultant divided beams are converged to be irradiated onto a recording medium (9), and reflected components, from the recording medium (9), of the beams are received by corresponding light

receiving elements. Thus, the main and auxiliary beams (12, 141, 142) distributed on one (131) of the two imaginary straight lines (131, 132) are used to perform focusing and tracking. Further, one of the two auxiliary beams (151, 152) distributed on the other straight line (132) are used to determine whether a track (11) where information is to be recorded is a blank area or not, and the other of the auxiliary beams (151, 152) is used to verify whether the information has been recorded correctly.

**FIG. 2**



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 11 2806

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP-A-0 077 642 (BURROUGHS CORP.) * the whole document * ---	1-11	G11B7/00 G11B27/22 G11B20/18
X	US-A-5 267 226 (KAZUHIKO MATSUOKA ET AL.) * the whole document * ---	1-11	G11B19/04 G11B7/135
X	EP-A-0 589 670 (CANON KK) * claims 1-6; figures 5,9 * ---	2,11	
A	EP-A-0 147 006 (MAGNETIC PERIPHERALS) * claim 1; figure 3 * ---	1-11	
A	US-A-5 144 610 (TOSHIO HORIGUCHI) * claim 1; figure 5 * ---	10	
A	EP-A-0 336 328 (NIPPON CONLUX CO. LTD.) * claims 1-3; figures 12,13 * -----	5,7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			G11B
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 12 December 1996	Examiner Bernas, Y
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>----- & : member of the same patent family, corresponding document</p>			